

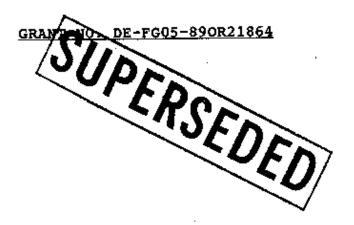
County Engineer - Water Dept.

St. Charles County

QUARTERLY REPORT

ST. CHARLES COUNTY WELL FIELD

MONITORING PROJECT



Prepared by: Stanley Remington October, November and December, 1994

QUARTERLY REPORT

MONTHLY REPORT

OCTOBER 1994

BY

Stanley M. Remington

Consulting Hydrologist

CHEMICAL ANALYSES

The results from the analyses of well number PW-2 were received and are appended. These samples were taken in September 1994. All of the results were normal, that is, no notable changes from all previous analyses were noted. All are within NPDES limits. One sample of treated water from the Weldon Spring Chemical plant site is appended. Again the results show that the treatment method used by the Department is working very well. All chemical parameters checked for were well below the NPDES limits. Enclosed are the results of the Quarterly site and quarry treatment plant effluent data summary - Third Quarter 1994. This shows the results of all the agencies testing the treated waters at the Chemical Plant site and from the quarry. Also shown is the distribution list to whom the results are sent.

Well number PW-9 was sampled in October 1994. The results have not yet been received.

II. MEETINGS

I attended the eighth annual St. Louis Regional Environmental Conference on October 11, 1994. I attended the session on water and the environment. The consensus of

opinion among the speakers is that the costs of analyzing for hazardous materials in water could go over one trillion dollars in the next 10 years if the requirement limits of the various government agencies become more strict. Some people are talking in terms of parts per trillion and parts per quadrillion. To put this in its proper perspective, parts per quadrillion would be a 10 with 16 zeros following it. All admit that no data exists on what harm this would do to anyone. Any element can be found anywhere on this planet in quantities this small. Some in the public are becoming paramoid and are laying their unfounded fears upon staff members in the U.S. Congress who are the ones writing the new drinking water standards and who in turn give them to their representatives and senators to vote into law. The congress merely rely upon the words of the staff members, most of whom are lawyers, who themselves are in disagreement. The conclusion of the speakers is that the situation is becoming ludicrous.

III. FUTURE PLANS

I will split samples with the Department of Energy for the quarterly sampling. I will sample wells RMW-2 and PW-8. This will be sometime in the middle of November. I may sample a batch of the treated water at the Chemical Plant site.

IV. MISCELLANEOUS

Enclosed is the St. Charles County Water Departments'
Monthly Water Usage Report for September 1994 and the
results of analyses of the gross alpha and gross beta of
the raw and treated waters taken from the St. Charles County
Court, Weldon Spring Treatment Plant. This is done by
the St. Louis County Department of Health. The period
covered was 8/1/94 - 8/31/94.

Mark Evans from the Public Health Department, Agency for Toxic Substances contacted me last month concerning the results that the St. Charles County found in their sampling for pesticides from our pumping wells. I referred him to the Water Department of the St. Charles County for any information that we have. He was only interested in the results from the past year.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

October 11, 1994

Stanley M. Remington 919 Broadmoor Lane St. Charles, MO 63301

RE: ATAS #10974.01

Weldon Spring

Dear Mr. Remington:

Enclosed are the analytical reports for the samples received in our laboratory on September 20, 1994.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr Project Manager

Enclosures

JAC/mb

CLIENT:

STANLEY M. REMINGTON

REPORT: 1097401E(209)

919 BROADMOOR LANE

DATE : 10-11-94

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : 10974.01

DATE SUBMITTED: 09-20-94

DATE EXTRACTED: 09-23-94

DATE ANALYZED: 09-25-94

METHOD REF. : SW846-8330, EPA METHODOLOGY

PROJECT

: WELDON SPRING

PROJECT : WELDS

EXPLOSIVE	reporting <u>limit</u>	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ИD
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
O-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: BK0923E(209)

DATE : 10-11-94

SAMPLE MATRIX : WATER

: METHOD BLANK ATAS #

DATE SUBMITTED: 09-20-94 DATE EXTRACTED: 09-23-94 DATE ANALYZED: 09-25-94

METHOD REF. : SW846-8330, EPA METHODOLOGY

: WELDON SPRING PROJECT SAMPLE ID : METHOD BLANK

EXPLOSIVE	REPORTING <u>LIMIT</u>	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	МD
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ИD
O-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	, ND

REPORT: QC0923E(209)

DATE : 10-11-94

STANLEY M. REMINGTON CLIENT:

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

: LABORATORY CONTROL SAMPLE ATAS 🗲

DATE SUBMITTED: 09-20-94 DATE EXTRACTED: 09-23-94 DATE ANALYZED: 09-25-94

METHOD REF. : SW846-8330, EPA METHODOLOGY SAMPLE ID : LABORATORY CONTROL SAMPLE

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL. (ug/L)	AMT. FOUND LCS(ug/L)	PERCENT RECOVERY	QC LINITE RECOVERY
1	1600	ND	1510	94 %	46-151
HMX	1600	ND ND	1370	105 %	72-129
RDX 15-TNB	1300 900	ND	904	100 %	74-118
1, 5-TNB TETRYL	1650	ИD	1820	110 %	58-120
1,3-DNB	475	ND	478	101 %	79-132
TNT	750	ND	753	100 ቴ	61-145
NITROBENZENE	850	ND	867	102 %	68-135
2,6 DNT	1150	ND	1200	104 %	77-125
2,4 DNT	700	ND	646	. 92 %	70-134
o-NITROTOLUENE	1450	ND	1500	103 %	70-131
p-NITROTOLUENE	1000	ND	983	98 %	73-116
m-NITROTOLUENE	950	ND	980	103 %	71-127

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1097401R(209)

DATE : 10-11-94

SAMPLE MATRIX : WATER ATAS EPISODE : #10974 DATE SUBMITTED: 09-20-94 DATE ANALYZED : 10-06-94

PROJECT : WELDON SPRING

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
PW-2	10974.01	pCi/L	GROSS ALPHA	3 +/- 2*
PW-2	10974.01	pCi/L	GROSS BETA	8 +/- 2*
PW-2	10974.01	mg/L	TOTAL URANIUM	<0.005

^{*} VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% CONFIDENCE LEVEL, 1.960.

pé .= PICOCURIES PER LITER

mg/L = PARTS PER MILLION(PPM)

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AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

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AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

October 25, 1994

Stanley M. Remington 919 Broadmoor Lane St. Charles, MO 63301

RE: ATAS #11290.01 Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on October 17, 1994.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr Project Manager

Enclosures

JAC/mb

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1129001M(210)

DATE : 10-25-94

SAMPLE MATRIX : WATER

ATAS #

: 11290.01

DATE SUBMITTED: 10-17-94

PROJECT : WELDON SPRING

SAMPLE ID

: NP-EPS1-101794-C

PARAMETER	REPORTING LIMIT	UNITS	RESULTS	DATE ANALYZED	NETHOD REFERENCE
		IN	ORGANICS		
NITRATE-NITRITE	0.10	mg/L	2.0	10-20-94	EPA 353.2
		1	METALS		
AROMIUM LEAD MANGANESE MERCURY SELENIUM	10.0 1.0 3.0 1.0 0.15 5.0	ug/L ug/L ug/L ug/L ug/L ug/L	ND ND ND 3.4 ND ND	10-20-94 10-20-94 10-20-94 10-20-94 10-21-94 10-20-94	SW 6010 SW 6010 SW 6010 SW 6010 SW 7470 SW 6010

^{~~/}L = PARTS PER MILLION(PPM) /L = PARTS PER BILLION(PPB)

ND - NOT DETECTED ABOVE REPORTING LIMIT

LIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: QC1020M(210)

DATE : 10-25-94

QA/QC

DESCRIPTION		PARAMETER	<u>results</u>	
METHOD BLANK	10-20-94	ARSENIC	<10.0	ug/L
METHOD BLANK	10-20-94	CHROMIUM	<1.0	ug/L
METHOD BLANK	10-20-94	LEAD	<3.0	ug/L
METHOD BLANK	10-20-94	MANGANESE	<1.0	ug/L
METHOD BLANK	10-21-94	MERCURY	<0.15	ug/L
METHOD BLANK	10-20-94	SELENIUM	<5.0	ug/L
METHOD BLANK	10-20-94	NITRATE/NITRITE	<0.10	mg/L
BLANK SPIKE	10-20-94	ARSENIC	114 %	RECOVERY
BLANK SPIKE	10-20-94	CHROMIUM	107 %	RECOVERY
BLANK SPIKE	10-20-94	LEAD	107 🕻	RECOVERY
BLANK SPIKE	10-20-94	MANGANESE	105 %	RECOVERY
BLANK SPIKE	10-21-94	MERCURY	97 🖁	RECOVERY
BLANK SPIKE	10-20-94	SELENIUM	114 😵	RECOVERY
LANK SPIKE	10-20-94	NITRITE/NITRATE	101 ≹	RECOVERY

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

1129001R(210) REPORT:

DATE : 10-25-94

SAMPLE MATRIX : WATER ATAS EPISODE : #11290 DATE SUBMITTED: 10-17-94 DATE ANALYZED: 10-24-94

: WELDON SPRING PROJECT

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
NP-EPS1-101794-C	11290.01	pci/L	GROSS ALPHA	6 +/- 4*
NP-EPS1-101794-C	11290.01	pci/L	GROSS BETA	4 +/- 5*
NP-EPS1-101794-C	11290.01	mg/L	TOTAL URANIUM	<0.005

^{*} VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% NPIDENCE LEVEL, 1.960.

^{.=} PICOCURIES PER LITER

mg/L = PARTS PER MILLION(PPM)

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1129001E(210)

DATE : 10-25-94

SAMPLE MATRIX : WATER ATAS 🗚 11290.01

DATE SUBMITTED: 10-17-94 DATE EXTRACTED: 10-18-94 DATE ANALYZED : 10-19-94

SW846-8090, EPA METHODOLOGY METHOD REF. :

: WELDON SPRING PROJECT : NP-EPS1-101794-C SAMPLE ID

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

REPORTING RESULTS LIMIT COMPOUND ND 0.0110 2,6-DINITROTOLUENE ND 2,4-DINITROTOLUENE 0.0221

OA/OC SURROGATE RECOVERY

78 % TETRACHLORO-M-XYLENE 75 % DECACHLOROBIPHENYL

STANLEY M. REMINGTON CLIENT:

REPORT: BK1018E(210)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 10-25-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : METHOD BLANK

DATE SUBMITTED: 10-17-94 DATE EXTRACTED: 10-18-94 DATE ANALYZED : 10-19-94

METHOD REF. : SW846-8090, EPA METHODOLOGY PROJECT : WELDON SPRING

: METHOD BLANK SAMPLE ID

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

REPORTING <u>results</u> <u>LIKIT</u> COMPOUND ND 0.010 2,6-DINITROTOLUENE ND 0.020 2,4-DINITROTOLUENE

OA/OC SURROGATE RECOVERY

80 % TETRACHLORO-M-XYLENE 74 % DECACHLOROBIPHENYL

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: QC1018E(210)

DATE: 10-25-94

SAMPLE MATRIX : WATER

: SPIKE BLANK/SPIKE BLANK DUPLICATE ATAS 🗲

DATE SUBMITTED: 10-17-94 DATE EXTRACTED: 10-18-94 DATE ANALYZED : 10-19-94

METHOD REF. : SW846-8090, EPA METHODOLOGY

: WELDON SPRING PROJECT

: SPIKE BLANK/SPIKE BLANK DUPLICATE SAMPLE ID

COMPOUND	SPIKE ADDED (ug/L)	AMT. FOUND EMPL. (ug/L)	AMT. FOUND SB (ug/L)	PERCENT RECOVERY	
,, ONT	0.250	ND	0.224	90 %	
2,4 DNT	0.250	ND	0.232	93 %	

COMPOUND	AMT. FOUND SBD. (ug/L)	SBD PERCENT RECOVERY	relative Percent Difference	
2,6 DNT	0.226	90 %	0.0 %	
2,4 DNT	0.219	88 %	5.5 %	

ENVIRONMENTAL SAMPLU CHAIN-OF- USTODY / AUTHORIZATION FORM WELDON SPRING SITE REMEDIV

PON SPRING SITE REMEDIA CTION PROJECT (WSSRAP) 7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63304 TELEPHONE (314) 441—8086 TELEX (314) 447—0803

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AUTHORIZATION



Department of Energy

Oak Ridge Operations
Weldon Spring Site
Remedial Action Project Office
7295 Highway 94 South
St. Charles, Missouri 63304

October 6, 1994

Distribution:

QUARTERLY SITE AND QUARRY WATER TREATMENT PLANT EFFLUENT DATA SUMMARY -- THIRD QUARTER 1994

Enclosed please find the subject effluent data summary sheets for the batches of water treated and discharged during the third quarter of 1994. Eight batches (S#031 through S#038) and three batches (Q#022 and Q#024) have been treated and discharged from the site and quarry water treatment plants, respectively

If you have any questions, please call me or Bruce Ballew at (314)441-8978.

Sincerely,

Stephen H. McCracken

Project Manager Weldon Spring Site

Remedial Action Project

Enclosure: As stated

cc w/o enclosure: Karen Marcus, MDNR Martha Windsor/Geri Kountzman, MDNR

Distribution List:

Larry Erickson Division of Environmental Quality Missouri Department of Natural Resources Post Office Box 176 Jefferson City, Missouri 65102

Dan Wall
Remedial Project Manager
U.S. Environmental Protection Agency
Region VII
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Consulting Hydrologist
919 Broadmoor Lane
St. Charles, Missouri 63301

Wayne Black
St. Louis County Health Department
111 S. Meremac
2nd Floor
Clayton, Missouri 63105

Conn Roden St. Louis County Health Department 111 S. Meremac 2nd Floor Clayton, Missouri 63105

Terry Gloriod Vice President for Production St. Louis County Water Department 535 North New Ballas St. Louis, Missouri 63141

Dave Visintainer City of St. Louis Water Division Chain of Rocks Plant 10450 Riverview Drive St. Louis, Missouri 63137

SUMMARY OF QWTP (BATCH 022) ANALYTICAL RESULTS FROM ALL AGENCIES RECEIVING SAMPLES ON 6/16/94

6/29/94 1300

					ST. CHARLES	ST. COUIS
	NODES I DATE	PMC DATA	MoDNR DATA	EPA DATA	COUNTY	COUNTY H & W
0404040		RESULTS		RESULTS	DATA RESULTS	DATA RESULTS
PANAMETER	*	<3.0 mg/l	420mg/f	AN	NA	NA
6000	09 / 60	<5.0 mg/l		ΑΝ	NA	A.
334	50 / 30	<4 mg/l		NA	NA	¥.
Collegion	10	<0.001 mg/l	BW010:6>	NA	<0.010 mg/l	
	u: +	0.154 mo/		NA NA	0.193 mg/1	
SACACA CALLERY	200	0.0007 mg/l		NA NA	<0.003 mg/i	3
	0.1	<0.004 mg/l	•	NA	<0.005 mg/l	ļ
CONCINION	-	<0.0025 mg/l		N.	<0.010 mg/l	
NO.	9.0	<0.0225 mg/l		NA	<0.055 mg/l	1
	10	0.0011 mg/		NA	√0.003 mg/l	-
LEGAN	10	0.0207 mg/l	COGO TROIT	NA	0.0254 mg/l	
VOLUCIAL DE	0.004	<0.00010mg/l		AN.	<0.0002 mg/l	
	200	0.0023 mg/l		NA	0,006 mg/l	
SELECTION		<0.0025 mg/l		NA	<0.010 mg/l	
SILVER	25.0	<0.015 mg/l		NA	<0.0150 mg/l	į
OVANDO AMENARIO	0.0075	<0.004 mg/l	- 19M 300 0×	NA	ΝA	
	0.22 100	<0.019 uq/l	- 40°005	NA	<0.02 ug/	40 902 ngd
24-014 61:00:00:00	40	<0.200 mg/l		AN	NA	c B32 mg/l
ALTERATE AS N	•	<0.200 mg/l	<0.00 mg/l	NA	<0.10 mg/l	. ≮0.1 mg.i
SII EATE	200	274 mg/l	230 mg/l	NA.	Ϋ́A	288.5mg/
	•	322.3 mg/l	\$40 mg/l	NA	A N	319.2 mg/
GBOSS ALPHA	*	5.3 ±5.6 pCI/I	3.4.4.2.7 DCI/	NA	10 ±7 pCi/l	2.4 ±1.2 pCif
C C C C C C C C C C C C C C C C C C C	*	17.4 ±6.3 bCi/l	18.3=1.7 pc.1[=	NA	24 ±7 pC/	15.7 ±1.3 pCi/l
TOTAL IN TOTAL	*	1.44 ±0.2 pCI/I	0.9 ±0.2 pCH	NA	<3.4 pCi/	1.2 ±0.3 pCl/l
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	*	1,03 pCi/l	, #Od 1.0 ÷ 6.0	AN	NA	¥
0400 M - 008		4.30 DCi/I		NA	¥.	¥
THORITM-230	*	<1,00 pci/l	<0.1 pCal	NA	Ϋ́	NA
HORE M-232	*	<1.00 pCi/	<3.1 pCU	Y.	AA A	NA NA
ASBESTOS	ŧ	<0.18 MFL		ΑΝ	¥	NA
PRIORITY POLLUTANTS	(SEE BELOW)					
1 SEMI-VOA	•	N.D.	NA AA	NA	NA NA	AN .
2 VOA	•	N.D.	¥	NA	XX	A'N
2 PCB/PEST	*	N.D.	c0.25 tqt	AA	≨	NA
Ho	6.0 - 9.0 S.U.	60.9	NA	AA	ĄZ	N.A
MONITORING ONLY	ᇉ	RGELIMITS				
** = Design Value of 30 pCi/1; N	to to	Exceed 100 pCi/I		•		
	pency					
	🏽 = Data received af	ter batch was discha	arged			
on: S. Anderson	Glen Schmidt	Glen Schmidt				

cc: S. Anderson C. Branchfield B. Freeman

Glen Schmidt Bulletin Board

Kathy McClintock

SUMMARY OF QWTP (BATCH 023) ANALYTICAL RESULTS FROM ALL AGENCIES RECEIVING SAMPLES ON 8/2/84

8/16/94 1000

					ST. CHARLES	ST LOUIS
	NPDES LIMITS	PMC DATA	Modna Data	EPA DATA	COUNTY	COUNTY H & W
PARAMETER	(l/bw)	RESULTS	RESULTS	RESUL'TS	DATA RESULTS	DATA RESULTS
COD	09/06	11.0 mg/l		ΝΑ	NA	NA
TSS	50/30	<2.00 mg/l		NA	NA	NA
ARSENIC	0.1	<0.006 mg/l		NA.	NA	C0.001 mg/1
CHROMIUM	0.1	<0.005 mg/l		NA	NA.	O DOT BO mg/l
COPPER	-	<0.006 mg/l		ΝA	NA	<0.000 mg/f
LEAD	0.1	<0.003 mg/l		AN	NA	<0.001 mg/f =
MANGANESE	0.1	0.012 mg/l		NA	NA	GO121
MERCURY	0.004	<0.0001 mg/l		NA	NA	<0.000 mpt
SELENIOR	0.02	<0.005 mg/l		NA	NA.	0.001385 mg/l
CYANIDE, AMENABLE	0.0075	<0.005 mg/l		NA	NA	
2.4-DNT	0.22 ug/l	<0.019 ug/l		NA	ΑΝ	
FLUORIDE	0.4	<0.03 mg/l		NA	NA	
NITRATE+NITRITE AS N	7	<0.02 mg/l		ΝΑ	NA	
SULFATE	200	216 mg/l		NA	NA	
CHLORIDE	•	350 mg/l		NA	ΝA	
GROSS ALPHA	•	<2.00 pCl/l		N	ΑΝ	1.3 ±1.0 pCi/
GROSS BETA	•	18.8 pC#		NA	A'A	±1.2
UPANIUM, TOTAL	*	1.89 pC[/l		· NA	NA	1.2 ±0.3 pCi/l
PADIUM-226	*	0,45 ±0.31 pCi/l		NA	NA	NA
RADIUM~228	•	-0.10 ±0.80 pCi/		NA	NA	NA
THORIUM-230	*	0.32 ±0.27 pCi/l		NA	NA	NA
THORIUM-292	*	0.05 ±0.11 pCi/l		¥.	ΝA	NA
PRIORITY POLLUTANTS	(SEE BELOW)					
1, SEMI-VOA	*	<25 ug/l	NA	NA	NA.	ΝΑ
2. VOA	*	Detailed Below ****	NA	NA	NA	NA
3. PCBs	*	<2.00 ug/l	NA	N.A	NA	NA
4. PESTICIDES		/o≥ ud/				
5. MÉTALS / OTHERS	-	Detailed Below *****				
Hd	6.0 - 9.0 S.U.	5.36	NA.	NA	NA	NA
* = MONITORING ONLY, NO PERMIT DISCHARGE LIMITS	IO PERMIT DISCHAL	RGE LIMITS				
** = Design Value of 30 pCI / I; Not		to Exceed 100 pCi / I				
*** = Parameter required once/month.	Ι' Ι	This month's sample was collected earlier in the month.	ected earlier in the m	onth.		
**** = 32 ug/l acetone, 89 ug/l chloroform, 12 ug/l bromodichloromethane	ug/l chloroform, 12	2 ug/l bromodichlorome	thane			
***** = 195 vg/j Barlum, 22 ug/l Iron,	-	2.9 ug/l Zinc, <1.00 pCi/l Polonium - 210		<200 pCl/l Radon-222.		
NA = Not analyzed by agency.						
	Data recei	ived after batch was discharged	e e			
CO. S. Anderson	Glen Schmidt					

cc; S, Anderson C. Branchfield B. Freeman

Glen Schmidt Bulletin Board Kathy McClintock

SUMMARY OF QWTP (BATCH 024) ANALYTICAL RESULTS FROM ALL AGENCIES RECEIVING SAMPLES ON 9/13/94

9/21/94 0840

					ST. CHARLES	ST. LOUIS
	NPDES LIMITS	PMC DATA	MoDNR DATA	EPA DATA	COUNTY	COUNTY H & ₩
PARAMETER	(l/bm)	RESULTS	BEBULTS	RESULTS	DATA BESULTS	DATA RESULTS
COD	09 / 06	10.0 mg/l		ΝΆ	NA	ΨN
TSS	50 / 30	2.00 mg/l		NA	NA	NA
ARSENIC	0,1	<0.006 mg/l		NA	NA	
CHROMIUM	0.1	<0.005 mg/l		AN	ΝA	
COPPER	-	l/gm 100.0>		AM	NA	
LEAD	0.1	l/gm 600.0>		¥Χ	Ϋ́Α	
MANGANESE	0.1	0.0194 mg/l		Ā	NA	
MERCURY	0.004	0.00016 mg/l		¥	N.	
SELENIUM	0.02	<0.005 mg/l		Ą	NA	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		ΑN	¥N	
2.4-DNT	0.22 ug/l	<0.019 ug/l		Ą	ΑN	ed.cog.ug/l
FLUORIDE	0.4	0.108 mg/l		Ą	N.	12m 50.05
NITRATE+NITRITE AS N	•	<0.40 mg/l		ΑN	NA	40 J mg/F
SULFATE	200	270 mg/l		Α̈́	NA	100 24 CFC
CHLORIDE	*	318 mg/l		Ϋ́N	AN	2E3 4 mg/f
GROSS ALPHA	•	1.71 pCi/l		ΝA	ΑN	4.2 ±1.4 pCi/
GROSS BETA	•	8.96 pCVI		NA	NA	11.9 ±1.2 pC(/I
URANIUM, TOTAL	A.4.	2.93 pCi/l		NA	NA	2.5 ±0.4 pCi/
RADIUM-226	•	0.8 ± 0.8 pCi/I		ΝA	NA	NA
HADIUM-228	•	0.7 ± 0.7 pCi/l		Ϋ́Α	ΝΑ	NA
THORIUM-230		0.1 ± 0.6 pC//		Ϋ́	ΑΝ	NA A
THORIUM-232	*	$0.0 \pm 0.5 pCM$		ΝΑ	NA	NA AA
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	NA.	NA	NA	AN	AA
2. VOA	*	NA	NA	NA	NA	AA A
3. PCBs	*	<0.25 ug/l	NA	AN	NA	NA
4. PESTICIDES	*	NA				
5. METALS / OTHERS	*	Detailed Below *****				
Ha	6.0 ± 9.0 S.U.	6,21	NA	ΑΝ	NA NA	NA
	NO PERMIT DISCHAR	DISCHARGE LIMITS				
** = Design Value of 30 pCl / I, No	30 pCI/I, Not to Ex	Exceed 100 pCi/l				
*** = Parameter required once/month.	once/month.					•
**** = ACTINIUM, DUE 9/28	1/20					
nalyzed by ag	ncy.					
	🎘 = Data received aft	🎆 = Data received after batch was discharged	pe			•
cc: S. Anderson	Glen Schmidt					
C. Branchfield	Bulletin Board					

Glen Schmidt Bulletin Board Kathy McClintock

SUMMARY OF SWTP (BATCH 031) ANALYTICAL RESULTS

From all parties receiving samples on 6/27/94

7/01/94 1125

DATA RESULTS DATA RESULTS COUNTY H & W Constant 10.1 ±0.7 pCi/l 7.3 ±1.9 pCi/l Bu 50,000 OKINE ST. LOUIS 0,00048 #8/ <0.0001 0.0 <1.0 pC(# 1 Smet ž ž ž ž ž Ž ST. CHARLES COUNTY ₹¥ ž ž ž ž ž ŽŽ ž Σž ź ž ž ź ž ž Σž EPA DATA **PESULTS** ΣX ž ž ž ž ž ž ≨ ¥ ž Y X ž ž ž ≨ ž ž ž Modnr DATA RESULTS *** = Monitoring parameter once per month. Already sampled this month. = Data received after batch was discharged
Mel Roberts Kathy McClintock $0.56 \pm 0.08 \text{ pCyl}$ 3.2 ± 2.8 pC// 9.8 ± 3.3 pCi/ <0.0001 mg/l 0.00304 mg/l <0.004 mg/l <0.007 mg/l <0.001 mg/l ** = Design Value of 30 pCi / I; Not to Exceed 100 pCi / <0.003 mg/l <0.003 mg/l <0.019 ug/j <0.19 ug/l <2.00 mg/l RESULTS <5.00 mg/ 1.44 mg/l 6.00 mg/l 213 mg/l 70.4 mg/l 8.55 S.U. * * * * ž *** * Š NPDES LIMITS (SEE BELOW) 0.22 ug/l (mg/l) 90 / 60 50/30 0.0075 6 - 9 0.004 0.02 4 0 윉엺 히 5 -6 0 ‡ = Monitoring Parameter NITRATE + NITRITE AS N PRICRITY POLLUTANTS CYANIDE, AMENABLE NA = Not Analyzed JRANIUM, TOTAL GROSS ALPHA GROSS BETA S. Anderson THORIUM-232 THORIUM-230 pH (Std. Units) RADIUM-226 RADIUM-228 . SEMI -- VOA PARAMETER MANGANESE CHROMIUM 2,4-DNT FLUORIDE CHLORIDE SELENIUM MERCURY SULFATE ARSENIC 3 PCBs 2. VOA

B. Freeman Bulletin Board Roy VanHee

Glen Schmidt

SUMMARY OF SWTP (BATCH 032) ANALYTICAL RESULTS From all parties receiving samples on 7/7/94

7/12/94 1030

					ST. CHARLES	ST. LOUIS
	NPDES LIMITS	PMC DATA	Modnr Data	EPA DATA	COUNTY	COUNTY H & W
PARAMETER	(mg/l)	RESULTS	RESULTS	RESULTS	DATA BESULTS	DATA RESULTS
COD	09/06	5.00 mg/l		NA	NA	NA
TSS	50/30	3.00 mg/l		NA	NA	NA
ARSENIO	0.1	<0.003 mg/l		ΝΑ	1 Bitt Q + C (3 >	<0.001 mg/l
CHROMIUM	0.1	l/gm: 700,0>		NA	F <0.000 mgfl :	C 00044 mg/t
LEAD	0.1	<0.001 mg/l		NA	10000000000000000000000000000000000000	<0.001 mg/l
MANGANESE	0.1	0.004 mg/l		NA	~4 865 mg/l	**6.00141 mg.1
MERCURY	0.004	<0.0001 mg/l		NA A	10000000	<0.0001 mg/l
SELENION	0.02	<0.003 mg/l		NA	ACO COL TIGIL	- KO 301 mg/
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	ΝΑ	<0.000 mg1
2.4-DNT	0.22 ug/l	/60,019 ug/		ΝΆ	<0023 lagif	- <0.052 upt
FLUORIDE	0.4	2.16 mg/l		NA	Ą	- 2.14 mg/t 🕆
MITTER + NITRITE AS N	20	9.70 mg/l		NA		4.58 mg/l
SULFATE	500	196 mg/l		NA	NA	230.7 mg/
CHLORIDE	•	91.4 mg/l		AA	NA A	- 95 8 mg/l
GPOSS ALPHA	*	0.30 ±2.70 pCi/l		NA	100\$7.6	4,9 ±1.6 pCi/l
GROSS BETA	*	8,00 ±3.40 pCi/l		NA	120012	10.2 ±1.2 pCt/
URANIUM, TOTAL	*	0.26 ±0.04 pCi/l		ΝΑ	# 24 PCM	41.0 pCi/l
RADIUM-226		2.40 ±0.89 pCi/l		NA	Ϋ́	
RADIUM-228	•	2.00 ±1.80 pCi/l		ΝA	Ϋ́	
THORIUM-230	•	0.27 ±0.27 pCi/l		ΝA	Ϋ́	ΝA
THORIUM-232	•	<0.16 pCl/l		NA	¥	ΝA
pH (Std. Units)	6-9	6.93		NA	NA A	
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	NA		ΑĀ	ΑĀ	NA
2. VOA	*	NA		NA	¥	NA A
a. PCBs	*	√20.30 ug/l		NA	AN	AA.
* - Monitoring Parameter	eter					
** = Design Value of 30 pCi/	I. Not to	Exceed 100 pCi/1				
*** = Monitoring parameter once per	ter once per month.	Already sampled this month	s month.			
NA = Not Analyzed						
	🌋 = Data received aff	 Data received after batch was discharged 	ped			
cc: S. Anderson	Mei Roberts	Kathy McClintock				
	0 0	•				

Roy VanHee Bulletin Board

B. Freeman Glen Schmidt

SUMMARY OF SWTP (BATCH 033) ANALYTICAL RESULTS From all parties receiving samples on 7/18/94

7/25/94 1030

:					ST. CHARLES	ST. LOUIS
	NPDES LIMITS	PMC DATA	MODNH DATA	EPA DATA	COUNTY	COUNTY H & W
PARAMETER	(/bm)	RESULTS	RESULTS	HESULIS	DATA RESULTS	DATA RESULTS
	90 / 60	5.00 mg/l		NA	NA	ΝΑ
100	50 / 30	2.00 mg/l		ΑN	NA	NA AN
S S S S S S S S S S S S S S S S S S S	-	<0.006 mg/l		ΑĀ	NA	0.6014 mg/l
		\cup \cup \cup \cup \cup \cup \cup \cup		AN.	AN NA	<0.0004 mg/l
MOMORPO	100	<0.003 mo/l		ΑΝ	NA AA	<0.001 mg/l
MANGANESE	10	<0.003 mg/l		Y.	NA	0.00 s62 mg/l
MCDC IDS	0.004	<0.0001 mg/l		ΝA	NA	<0.0001 mg/l
SELECTION IN	0.02	0.006 mg/l		NA	NA	9 00 149 mg/t
CVANIOR AMENABLE	0.0075	<0.004 mg/l		NA	NA	- <0.0001 mg/l
O A LONG	0.22 10/	/gm 610.0>		NA NA	Ϋ́	160280.02
301001 10	40	2.70 mg/l		ΝΑ	NA	3.1 mg/
NITRATE + NITRITE AS N	20	2.91 mg/t		NA	ΝA	9.14mg/l
SILEPATE	200	174 mg/l		NA	NA	179.4mg/l
DECEMBER 1	•	202 ma/l		NA	Ϋ́N	212.4mg/l
COCOCO STORY	*	<2.00 oCi/l		ΑΝ	AN	1.3 ±0.9 pCi/l
C1000000000000000000000000000000000000	*	3.84 bCil		ΑN	NA	7.3 ±1.1 pCi/
CINCOCOLO TOTAL	;	<1.00 pG//	•	AN	ΝΑ	<1.0 pCi/l
DADII ME 228	•	***		AN	NA NA	
DADI M-228	=	***		MM	N.A.	
MINE OF THE CASE	*	444		NA	NA NA	Ϋ́N
OCCUPATION OF THE PROPERTY OF	*	4*		NA	A'A	NA
Sign Ptay He	6-9	7,43		NA	Ϋ́	
PRICHITY POLLUTANTS	(SEE BELOW)					
1 SEMI-VOA	*	NA		NA	NA.	NA
2 VOA	*	NA		N.A.	¥	¥¥.
3 PCBs	*	1/50 0€'0>		¥	¥.	AA NA
					•	
 Monitoring Parameter 	eter					
11	30 pCi/l; Not to E	lat to Exceed 100 pCI/I				
ı	ter once per month.	Aireacy sampled this month	is month.			•
NA = Not Analyzed	= Deta received after batch was discharded	ter batch was discha	rded			
200000000000000000000000000000000000000		Markey Man Clinton				
cc: S. Anderson	Mel Hoberts	Katny McClintock				
Hoy vannee	o, Freeman					
Bulletin Board	Glen Schmal					

SUMMARY OF SWTP (BATCH 034) ANALYTICAL RESULTS From all parties receiving samples on 8/1/94

8/15/94 0930

					ST. CHARLES	ST. LOUIS
	NPDES LIMITS	PMC DATA	MODNA DATA	EPA DATA	COUNTY	
PARAMETER	(l/Bm)	RESULTS	RESULTS	RESULTS	DATA RESULTS	DATA RESULTS
ÇOD	09/08	5.4 mg/l		NA	NA	NA
188	50/30	<4.0 mg/l		NA	NA	NA
ABSENIC	0.1	<0.001 mg/l	. <0.02±mg/l	NA	NA	0.00191 mg l
CHROMIUM	0.1	<0.004 mg/l		NA	NA NA	0,00055 mg/l
LEAD	0.1	<0.001 mg/l	:	NA	NA	\$ 00 mg
MANGANESE	0.1	<0,0025 mg/l	<0.010 mg/l	NA.	NA	0.002BBrng.f
MERCURY	0.004	\chi_\gm 100001		NA	NA	150 COO C>
SELENIUM	0.02	0.0019 mg/l		ΝA	NA	0,00104 mg/l
CYANIDE, AMENABLE	0.0075	<0.005 mg/l		NA	Ϋ́	
2.4-DNT	0.22 ug/l	<0.091 ug/		NA	ΝΑ	180 203 C
FLIORIDE	0.4	2.628 mg/l		NA	NA	1.74 mg/l
NITRATE + NITRITE AS N	20	1,595 mg/l	4:1 6 mg4	NA	NA	1.53 mg/f
SULFATE	500	178.8 mg/l		NA	ΑA	- 470.1mg
CHICAIDE	•	127.0 mg/l		ΝĄ	Ą	126.3 mg/
GROSS ALPHA	•	2.36 pCl/l	42 #1.1 pall	NA	NA	3,3 ±1.3 pCi/l
GROSS BETA	*	6.90 pC//	-12 B ± 3 B DC.II =	NA	ΑN	8.1 ±1.0 pC//
JAANIUM TOTAL	**	<1.00 pCi/l	1.5 ± 5.7 pC.(1	NA	Ϋ́	<1.0 pCi/
BADIUM-226	*	0.72 ±0.38 pC /I		ΑN	¥	
PADIUM-228	•	1.20 ±1.40 pCl/l		AA	AN AN	
THORIUM-230	•	0.19 ±0.19 pCi/l		AM	AA A	AN.
THORIUM-232	•	0.00 ± 0.00 pCi/l		NA NA	NA	NA
pH (Std. Units)	6-9	8.42		ΝΑ	NA	
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	NA		Ϋ́	¥	A'A
2. VOA	*	NA A		¥	NA NA	NA
3, PCBs	*	<0.118 ug/l	co.t.ugf	¥.	¥	¥
!						
11						
- 1	0 pCI/I; Not to E	ot to exceed 100 pci/i	411		•	
И	ter once per month.	Already sampled this month	s month.			
NA = NOI ANEI 9260	= Data received of	Data received after batch was discharged	pab			
cc: S. Anderson	Mel Roberts					i I
_	Glen Schmidt					
Bulletin Board	Kathy McClintock					

SUMMARY OF SWTP (BATCH 035) ANALYTICAL RESULTS From all parties receiving samples on 8/11/94

8/16/94 0930

					i ST CHARLES	ST. LOUIS
	NPDES LIMITS	PMC DATA	MoDNR DATA	EPA DATA	COUNTY	
PARAMETER		RESULTS	RESULTS	RESULTS	DATA RESULTS	DATA RESULTS
000	90 / 60	10.0 mg/l		NA	NA	AN
188	50/30	<2.00 mg/l		ΝΑ	NA	NA
ABSENIC	0.1	<0.006 mg/l	- c0.005 mg/l	ΝA	NA	
CHROMIUM	0,1	/6m 200.0>		NA	NA	
LEAD	0.1	<0.003 mg/l		ΝA	A'A	1
MANGANESE	0.1	<0.009 mg/l	45.010 mg/l	ΝΑ	NA VA	: :
MERCURY	0,004	<0.0001 mg/l		NA	NA	-
SELENIUM	0.02	0.00652 mg/l		ΑN	NA AN	
CYANIDE AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2.4-DNT	0.22 ug/l	40,019 ug/l	<0.025 ug/l	NA	AN	15 28G TV
FLEDRIOE	4.0	2.04 mg/l		ΑΝ	NA	212001
NITRATE + NITRITE AS N	20	2.01 mg/l	<1,970,93	ΝA	AA V	148494
SULFATE	500	195 mg/l		NA	NA	- 284 mg/l
CHLORIDE	-	116 mg/l		AA	NA	124.mg/l
GROSS ALPHA	4	1,0 ±2.6 pCi/	1.1 pch	ΝΑ	NA	<1.0 poi/
GPOSS BETA	•	11 ±4 PCi/	42 ±0 8 pC//	NA	NA	8.4 ±1.1 pC /
URANIUM TOTAL	**	0.5 pC//	0.3 ±0.3 pCII	Ϋ́	ΑΝ	<1.0 PCi/
RADIUM-226	*	**		ΑΑ	AA	
RADIUM-228	*	***		AA	ΑŽ	-
THORIUM-230	*	***		Ą	Ž	Ä
THORIUM-232	*	***		NA	AA	AA.
pH (Std. Units)	6-9	7.92		NA NA	¥	
PRICRITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	#	NA		¥	YA.	AN.
2. VOA	*	WAN		¥	ΝΑ	¥
3, PCBs	*	l/bn 71,0>	Light Took	Ϋ́	NA NA	NA NA
* = Monitoring Parameter		:				
** = Design Value of 30 pCi / I; N	5	Exceed 100 pCi/l				a a contract of the contract o
*** = Monitoring parameter once per	ter once per month.	Aiready sampled this month	is month.			
NA = Not Analyzed						
	🎥 🛎 🗀 Data received after batch was di <u>scharged</u>	ter batch was di <u>scha</u>	ırqed			
cc. S Anderson	Mel Roberts					

cc: S. Anderson Roy VanHee Bulletin Board

Mel Roberts Glen Schmidt Kathy McClintock

SUMMARY OF SWTP (BATCH 037) ANALYTICAL RESULTS From all parties receiving samples on 9/7/94

9/16/94 0920

					ST. CHARLES	ST. LOUIS
	NPDES LIMITS	PMC DATA	Modna Data	EPA DATA	COUNTY	COUNTY H & W
PARAMETER	(mg/l)	RESULTS	RESULTS	RESULTS	DATA RESULTS	DATA RESULTS
000	09 / 06	10.0 mg/l		NA	ΝΑ	NA
TSS	50/30	6.00 mg/f		NA	NA	NA
ARSENIC	0.1	<0.008 mg/l		NA	NA	
CHROMIUM	0.1	1/Bm 500.0>		NA	NA	
LEAD	0.1	<0.003 mg/l		NA	NA	
MANGANESE	0.6	0.00580 mg/l	•	NA	NA	
MERCURY	0,004	0.00010 mg/l		NA	Α×	
SELENIUM	0.02	<0.005 mg/l		NA	AA	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2.4 - DNT	0.22 ug/l	<0.019 ug/l		NA	NA	40.082 ug/l
FLUORIDE	0,4	2.62 mg/l		NA	NA	21 mg/t
NITRATE + NITRITE AS N	20	0.131 mg/l		NA	NA	×0,4 mαμ
SULFATE	500	199 mg/l		NA	ΝA	173.9 mg/l
CHLORIDE	*	205 mg/l		NA	NA	181 6 mg/l
GROSS ALPHA	*	-4.80 ± 3.50 pC//		NA	NA	<1.0 pCi/l
GROSS BETA		7.20 ± 4.70 pCi/l		NA	ΑĀ	10.7 ± 1.2 pCi/l
URANIUM, TOTAL	***	0.87 ± 0.09 pC /I		NA	Ϋ́	<1.0 pCi/i
RADIUM-226	•	0.6 ±0.8 pCi/		A	ΑΝ	
PADIUM-228	•	0.6± 0.7 pCi/l		NA	. ¥N	
THORIUM-230	•	0.1 ±0.6 pC(/		NA	¥	٩×
THORIUM-232	•	0.0 ±0.6 pCi/l		NA	ΑN	NA
pH (Std. Units)	6-9	7.49		NA	NA	
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	+	ΝA		NA.	NA	A'A
2. VOA	*	NA		NA	AA	NA NA
3, PCBs	+	<0.25 ug/l		NA	NA NA	¥Z
* = Monitoring Parameter						
** - Design Value of 30 pCi / I; N	VIII	lot to Exceed 100 pCi / I				
*** = Monitoring parameter once per	ter once per month.	Already sampled this month	s month.			
NA = Not Analyzed						
	🔅 = Data received aft	 Data received after batch was discharged 	ded			
ac: S. Anderson	Mel Roberts					

Roy VanHee Bulletin Board

Glen Schmidt Kathy McClintock

SUMMARY OF SWTP (BATCH 038) ANALYTICAL RESULTS From all parties receiving samples on 9/22/94

9/29/94 1030

					ST. CHARLES	ST. LOUIS
	NPDES LIMITS	PMC DATA	MoDNR DATA	EPA DATA	COUNTY	COUNTY H & W
PAHAMETER	Д (mg/l) Unless noted	RESULTS	RESULTS	RESULTS	DATA RESULTS	DATA RESULTS
000	09/08	10 m g/l		NA	NA	NA
TSS	50 / 30	<2.00 mg/l		NA	NA	NA
ARSENIC	0.1	<0.004 mg/l		NA	NA	
CHROMIUM	0.1	<0.005 mg/l		NA	NA	
LEAD	0.1	1/gm 800.0>		NA	۸N	
MANGANESE	0.1	0.007 mg/l		NA	۸×	
MERCURY	0,004	0.00014 mg/l		NA	MM	
SELENIUM	0.02	0.00520 mg/l		NA	ΝA	
CYANIDE, AMENABLE	0.0075	<0.004 mg/l		NA	NA	
2,4-DNT	0.22 ug/l	0.019 ug/l		NA	NA	
FLUORIDE	0,4	2.39 mg/l		AN	Ą	
NITRATE + NITRITE AS N	20	<0.02 mg/l		¥.	NA AN	
SULFATE	500	219 mg/t		Ą	¥	
CHLORIDE	•	232 mg//		ΑÑ	Ą	
GROSS ALPHA	•	5.9 ±5.1 pCl/l		Ą	Ą	2.2 ±1.1 pCi/l
GROSS BETA	•	11 ±5 pCi/l		NA	NA	9.2 ±1.2 pCi/l
URANIUM, TOTAL	**	0.4 pCi/l		NA	NA	<1.0 pCi/l
RADIUM-226	•	***		NA	NA	
RADIUM-228	*	444		NA	ΝA	
THORIUM-230	*	444		NA	NA	۸A
THORIUM-232	•	444		NA	NA	NA
pH (Std. Units)	€ ~ 9	6.91		NA	NA	
PRIORITY POLLUTANTS	(SEE BELOW)					
1. SEMI-VOA	*	ΝA		ΑN	N.A	NA
2. VOA	*	NA		NA	NA AA	NA
3. PCBs	*	<0.19 ug/l		ΑN	ΝΆ	NA
		-				
"				•		
- 1	×I	to Exceed 100 pCi/I				
*** = Monitoring parameter once per month.	- 1	Aiready sampled this month	onth.			
De7 kiraly Ton =	= Data received after batch was discharged	atch was discharged				
cc: S. Anderson	Mel Roberts					
Roy VanHee	Glen Schmidt					
Bulletin Board	Kathy McClintock					



St. Louis County Department of Health

September 28, 1994

Kenneth V. Miller Bureau of Radiological Health Missouri Department of Health Jefferson City, MO 65102

Dear Mr. Miller:

The level of Gross Alpha and Gross Beta in the commercial samples from St. Charles County Court, Weldon Springs, Treatment Plant are as follows:

DATE: [08-01-94/08/31/94)	GROSS ALPHA	GROSS BETA	MDL(pCi/L)
Raw Water	3.3 ± 1.5	6.7 ± 1.0	1.0
Finished Water <	1.0	5.0 ± 1.1	1.0

Sincerely,

Laboratory Director

Buzz Westfall County Executive

Director

pc - Dept. of Natural Resources - WSP - Jefferson City Dept. of Natural Resources - WSP - St. Louis

/Mr. Thomas W. Aaron, St. Charles County Court, Weldon Springs

% St. Charles County Water

111 S. Meramec Avenue WEB: y Clarton, Missouri 63105

Phote: (314) 854-6000 Fax: (314) 854-6435 TDD: (314) 854-6446

Alpha Fowler Bryan, M.D.

ST, CHARLES COUNTY WATER DEPARTMENT

MONTHLY WATER USAGE REPORT

ML ,H OF: September		Monthly Usaged	ı	Daily Avg.		Y to D Usaged		Daily Avg.
PLANT PRODUCTION	:	335112000	:	11.10	t	282 38 57 0 00	1	10.34
PLANT USE	ı	9265000	ı	0.30	ı	140303000	ı	0.51
DELIVERED TO SYSTEM	:	325847000	:	10.80	:	2683554000	:	9.83
		646770000				0045000000	_	7 45
MISSOURI CITIES WATER	:	246780000	:	8.20	1	2045800000	•	7.49
WATER DISTRICT #2 24" LINE	ı	63959000	1	2.10	ι	444971000	t	1.63
WATER DIST. #2 NEW MELLE	t	6208000	:	0.20	=	47101 000		0.17
NATIONAL GUARD AREA	1	000	•	٥	;	21000	E	
TOTAL METER SALES	1	316947000	•	10.50	ţ	2537893000	=	9,29
UNMETERED AND UNACCOUNTED	1	8900000	1	0.30	1	145661000	ı	0.53

INVENTORY OF CHEMICALS

	LIME	CHLORINE
PREV. BALANCE	+: 156257	+1 5856
RECEIVED	+1 559600	+1 32000
TOTAL	≈ 1 715857	■ 37856
USED	-: 578811	-1 25770
BALANCE	137046	# 12086
POUNDS PER 1000 GALLONS	= 1 1.72	=: 0.076B
PARTS PER MILLION	=: 207.1	=1 9.22
AVG. POUNDS PER DAY	=: 19294	=: 8 59
POUNDS USED YEAR TO DAT	E= 4110659	=: 199660

NATE: 10/03/94
HETER READINGS
NCCOUNT #
LI URI CITIES

METER

TO: 9/30/94 FROM: 8/31/94 USAGED

TURE CITIES BOOSTER STATION

ULTRA SONIC #1 +1 885977 -1 721640 -1 164337
ULTRA SONIC #2 +1 517201 -1 441629 -1 75572

-ı 3877076 - **=:** 244502000 +: 4121578 TOTALIZER HETERS BEFORE MISSOURI CITIES BOOSTER STATION TO: 9/26/94 FROM: 8/25/94 USAGED 1. FH ANNEX 4" ~1 1020 68000 +: 108B **-**:)4-50-132B350 4000 2. MO STATE SHED +: 170 -1 166 **-**:)4-50**~13285**00 =; 15000 -: 365 64-50-1330000 3. DOE LAB LARGE +: 380 8MALL +: 9114 14-50-1330401 4. DOE FIRE LINE +: 14717 -: 8159 **-:** 955000 -: 13939 **-1 778**000 -1 82 04-50-1330701 5. DOE TRAILERS +1 82 --- E 04-50-1330100 6. DOE 8" #1 LARGE+: 5746 SMALL+: 6020 **=1** 103000 -: 5643 =1 30000 -: 5990 -: 1853 **52000** 04-50-1330200 7. DOE 8" #2 LARGE+: 1905 ΞĮ 15000 SMALL+: 2425 -: 2410 -1 2572 **≖; 146**000)4-50-1320200 B. DDE 3" +1 2718 m; 112000 +1 12391 - 12279 14-50-1328550 9. FH SCHOOL

MISSOURI CITIES TOTAL =: 246780000

TOTAL

***:** 2278000

. . DIST. #2 24" LINE

TO: 9/30/94 FROM: 8/31/94 USAGED **~:** 201747 - 5 24" EAST +: 201747 =: 63959000 -: 753522 24" WEST +: 817481 +: 2340 **-1** 2340 **#** 3 BYPASS WATER DIST. #2 TOTAL -: 63959000 NEW MELLE +1 227992 -1 221784 -t 6208000 MONTHLY REPORT

NOVEMBER 1994

BY

Stanley M. Remington

Consulting Hydrologist

CHEMICAL ANALYSES

The results from the analyses of well number PW-9 were received and are appended. This well was sampled on October 20, 1994. The well was analyzed for total uranium, gross alpha and beta and nitroaromatics. All of the results were normal.

On November 29, 1994 the quarterly sampling was taken by me and the Department of Energy. We sampled wells number PW-9 and RMW-2.

This group of wells include the usual parameters (see above) plus several metals, nitrates and at the request of the County Engineer the wells will be tested for pesticides, herbicides and Atrazine, another common herbicide used by farmers in all states where corn is grown. In fact it is the primary herbicide used by corn growers. There was concern voiced by many citizens of central Illinois last month about the amount of herbicides showing up in the Mississippi River. Because of this, Joe R. Nichols thought we should test for any of the parameters in our wells.

Also on November 29, 1994 I tested a treated batch of quarry water supplied to me by the Department of Energy. The

quarry was receiving considerable rain water during November, so it had to be pumped down to its working level, that is the water level which the DOE keeps at the quarry to enable them to remove the solid waster without creating any dust. It is anticipated that one more batch will have to be removed.

II. FUTURE PLANS

I will sample one of the PW wells close to the Missouri
River during mid December and include pesticides, herbicides
and Atrazine. Their reason for this is to see if the Missouri River has these contaminants in quantities which
may be hazardous. This has not ever happened during the
past 6 years in which we have tested for pesticides. No
herbicides were ever tested for. The wells nearest the
Missouri River receive most of their recharge from the
Missouri River.

III. MISCELLANEOUS

Appended is the St. Charles County Water Department Monthly Water Usage report dated 11/1/94.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

November 17, 1994

Stanley M. Remington 919 Broadmoor Lane St. Charles, MO 63301

RE: ATAS #11343.01

Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on October 20, 1994.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr Project Manager

Enclosures

JAC/mb

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

1134301R(211) REPORT:

DATE : 11-17-94

SAMPLE MATRIX : WATER ATAS EPISODE : #11343 DATE SUBMITTED: 10-20-94 DATE ANALYZED: 11-09-94

: WELDON SPRING PROJECT

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
PW-9	11343.01	pci/L	GROSS ALPHA	0 +/- 3*
PW-9	11343.01	pci/L	GROSS BETA	6 +/- 3*
PW-9	11343.01	mg/L	TOTAL URANIUM	0.006

^{*} VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% ONFIDENCE LEVEL, 1.960.

L/L= PICOCURIES PER LITER

LIENT:

STANLEY M. REMINGTON

REPORT: 1134301E(211)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 11-17-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER : 11343.01 ATAS 🕖 DATE SUBMITTED: 10-20-94 DATE ANALYZED: 10-24-94

METHOD REF. : SW846-8330, EPA METHODOLOGY

PROJECT : WELDON SPRING SAMPLE ID : PW-9

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

	REPORTING	
EXPLOSIVE	<u>LIMIT</u>	<u>results</u>
нмх	13.0	ND
RDX	14.0	ИD
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ИD
2,4,6 TNT	6.4	ND
O-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

STANLEY M. REMINGTON CLIENT:

REPORT: BK1024E(211)

919 BROADMOOR LANE

DATE : 11-17-94

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

: METHOD BLANK ATAS #

DATE SUBMITTED: 10-20-94 DATE ANALYZED : 10-24-94

SW846-8330, EPA METHODOLOGY METHOD REF. :

: WELDON SPRING PROJECT : METHOD BLANK SAMPLE ID

RESULTS REPORTED IN ug/L OR PARTS PER BILLION (PPB)

	REPORTING	RESULTS
EXPLOSIVE	<u>LIMIT</u>	
нмх	13.0	ND
RDX	14.0	ИD
1,3,5-TNB	7.3	ND
TETRYL	10.0	ИĎ
1,3-DNB	4.0	ИN
NITROBENZENE	7.0	ND
2.6 DNT	9.4	ИD
2.4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
O-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: QC1024E(211)

DATE : 11-17-94

SAMPLE MATRIX : WATER

ATAS 🗲

: LABORATORY CONTROL SAMPLE

DATE SUBMITTED: 10-20-94

DATE ANALYZED: 10-24-94

METHOD REF. : SW846-8330, EPA METHODOLOGY SAMPLE ID : LABORATORY CONTROL SAMPLE

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL. (ug/L)	AMT. FOUND LCS (ug/L)	PERCENT RECOVERY	OC LIMITS RECOVERY
нмх	1600	ND	1540	96 %	46-151
RDX	1300	ND	1360	105 %	72-129
1,3,5-TNB	900	ND	879	98 %	74-118
T :YL	1650	ND	1870	113 %	58-120
DNB-c, Σ	475	ND	507	107 %	79-132
THT	750	ND	814	109 %	61-145
NITROBENZENE	850	ND	900	106 %	68-135
2,6 DNT	1150	ND	1200	104 %	77-125
2,4 DNT	700	ND	716	102 %	70-134
O-NITROTOLUENE	1450	ND	1570	. 108 %	73-131
p-NITROTOLUENE	1000	ND	1030	103 %	73-116
m-NITROTOLUENE	950	ND	1020	107 %	71-127

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

Q F

15/2/F21 11343,01 LAB NO. DATE/TIME 10 | 15 | other In # Of Work Days Turnaround Time (52 LM 10f26f44 ANALYSIS RECEIVED BY: Please Indicate REMARKS DATE/TIME RELINQUISHED BY: DATE/TIME CHAIN OF CUSTODY RECORD 34 NO. OF CONTAINERS hapapa) 55 ATAS CLIENT NAME: STAN REMINISTON PRES RECEIVED BY: Wood COMP LOCATION: ķ DATE TIME MATRIX BY RELINQUISHED BY: DATE/TIME 15/00/01 10/20/94 0950 FORM GOMPLETED BY: TREAT. PLANT PROJ. NO. SAMPLE 1D

ST, CHARLES COUNTY WATER DEPARTMENT MONTHLY WATER USAGE REPORT

MONTH	OF .	Dotober	- '

		Monthly Usaged		-		Y to D Usaged		Y to D Avg
PLANT PRODUCTION	ı	282391000	1	9.10	•	3106248000	•	10.22
PLANT USE	i	8686000	1	0.30	1	148989000	•	0.49
DELIVERED TO SYSTEM	:	273705000	1	8.80	;	2957259000	•	9.73
MISSOURI CITIES WATER	:	228892000	:	7.40	ŧ	2274692000	;	7.48
WATER DISTRICT #2 24" LINE	ı	36172 00 0	ı	1.70	ı	481143000	ŧ	1.58
WATER DIST. #2 NEW MELLE	1	5313000	1	0.20	1	52414000	:	0.17
NATIONAL GUARD AREA	ī	000	1	0	t	21000	ľ	
TOTAL METER SALES	:	270377000	:	8.70	Ē	2808270000	:	9,23
UNMETERED AND UNACCOUNTED		3328000		0.10		148889000	•	0.49

INVENTORY OF CHEMICALS

	LIME	CHLORINE
PREV. BALANCE	+1 137046	+: 12086
RECEIVED	+: 399580	+: 16000
TOTAL	=: 536626	=: 28086
USED	-1 410250	-1 19550
BALANCE	=: 126376	=1 8536
POUNDS PER 1000 GALLONS	i =: 1.45	#: 0.059
PARTS PER MILLION	=: 174	=: 8.30
AVG. POUNDS PER DAY	=: 13234	=: 631
POUNDS USED YEAR TO DAT	E=: 452090	=: 219210

METER READINGS

ACCOUNT #

METER

TO: 10/31/94 FROM: 09/30/94 USAGED

LOURI CITIES BOOSTER STATION

ULTRA SONIC #1 +: 885977 -: 37104 ULTRA SONIC #2 +: 517201 -: 589477

TOTALIZER +: 4121578 -: 4348748 =: 227170000

METERS BEFORE MISSOURI CITIES BOOSTER STATION

METERS BEFORE MISSOURI CITTED BOOSTER STRITCH						
		TD: 10/25/	94 FROM: 09/26	/94 USAGED		
04-50-1328350	1. FH ANNEX 4"	+1 1126	-1 1088	*: 38000		
04-50-1328500	2. MO STATE SHED	+: 176	-1 170	=(6000		
04-50-1330000	3. DOE LAB LARGE	+: 385	-: 380	=: 5000		
	SMALL	++ 9801	-: 9114	=: 687 000		
04-50-1330401	4. DOE FIRE LINE	+: 15283	-: 14717	≥1 566000		
04-50-1330701	5. DOE TRAILERS	+ı 82	-: 82	≅ 1		
04-50-1330100	6. DDE 8" #1 LARG	E+: 5850	-1 5746	=: 104000		
	SMAL	L+r 6045	-: 6020	≖ լ 25000		
04~50~1330200	7. DOE 8" #2 LARG	F+: 1933	-r 1905	=: 28000		

04~50~1330200 7. DUE 8 -: 2425 5000 SMALL+: 2430

04-50-1320200 B. DOE 3" +: 2893 04-50-1328550 9. FH SCHOOL +: 12474 **-:** 2718 **⊭**∎ 175000 04-50-1328550 9, FH SCHOOL -: 12391 83000 = \$

TOTAL #: 1722000

MISSOURI CITIES TOTAL =: 228892000

AATER DIST. #2 24" LINE

TO: 11/01/94 FROM: 09/30/94USAGED

+: 201747 -: 201747 =: 24" EAST

- **≈:** 36172000 24" WEST +: 853663 -: 817481

-: 2340 +1 2340 BYPASS

WATER DIST. #2 TOTAL - **≈:** 36172000

NEW MELLE +: 233205 -1 227992 -1 5313000

MONTHLY REPORT DECEMBER 1994

BY

Stanley M. Remington
Consulting Hydrologist

CHEMICAL ANALYSES

On November 21, 1994 a sample of treated quarry water was taken. The results are appended. No changes were noted from all previous analyses of the quarry water. All are well below the NPDES limits.

On November 29, 1994 a sample of treated water from the Weldon Spring site was taken. The results are appended. Again, all of the parameters were well below the NPDES limits.

Also on November 29, 1994, I sampled wells numbered PW-9 and RMW-2 for the quarterly sampling. In addition to the regular parameters tested, pesticides, herbicides and Atrazine (the herbicide for corn) were tested. No detections were noted in any of the pesticides tested for as well as any herbicides. All the other chemical parameters showed normal concentrations, that is they are at or near the previous samplings during the past six year. All are well below NPDES limits. They are appended.

On December 16, 1994, well number PW-4 was tested for Gross Alpha and Beta, total Uranium, Nitroaromatics, and the same pesticides, herbicides and Atrazine as those tested in wells PW-9 and RMW-2 last month. PW-9 is located about

25 feet from the levee at the Missouri river. Most of
the recharge from this well comes from the Missouri river.
So I wanted to see if any pesticides, herbicides or Atrazine
is present in any of our pumping wells near the Missouri
river. I have not yet received the results from this test.

II. FUTURE PLANS

I will sample well number PW-8 during mid-January, 1995.

III. MISCELLANEOUS

Appended are the results of Gross Alpha and Gross Beta in the commercial samples from St. Charles Court, Weldon Springs, Treatment Plant. These are dated 9/1/94 - 9/30/94. Also enclosed is the St. Charles County Water Department Monthly Water Usage Report.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

November 30, 1994

Stanley M. Remington 919 Broadmoor Lane St. Charles, MO 63301

RE: ATAS #11676.01 WSSRAP

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on November 21, 1994.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr Project Manager

Enclosures

JAC/mb

CLIENT:

STANLEY M. REMINGTON

REPORT:

1167601E(211)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE :

11-30-94

ATTN:

STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

11676.01

ATAS #

11-21-94

DATE SUBMITTED:

11-22-94

DATE EXTRACTED:

11-22-94

DATE ANALYZED : METHOD REF.

: SW846-8080, EPA METHODOLOGY

PROJECT

WSSRAP

SAMPLE ID

: #1 NP-EPQ1-112194-C

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

REPORTING

COMPOUND	LIMIT	RESULTS
2,6-DINITROTOLUENE	0.0118	ND
2,4-DINITROTOLUENE	0.0235	ND

OA/QC SURROGATE RECOVERY

TETRACHLORO-M-XYLENE 74 % 65 % DECACHLOROBIPHENYL

CLIENT: STANLEY M. REMINGTON

REPORT: BK1122E(211)

919 BROADMOOR LANE

DATE : 11-30-94

ST. CHARLES, MO 63301 ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

: METHOD BLANK

DATE SUBMITTED: 11-21-94

DATE EXTRACTED: 11-22-94

DATE ANALYZED: 11-22-94

METHOD REF. : SW846-8080, EPA METHODOLOGY

PROJECT

ATAS #

: WSSRAP

SAMPLE ID

: METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION (PPB)

	REPORTING	
COMPOUND	LIMIT	<u>results</u>
2,6-DINITROTOLUENE	0.010	ND
2,4-DINITROTOLUENE	0.020	ND

OA/OC SURROGATE RECOVERY

TETRACHLORO-M-XYLENE

52 %

DECACHLOROBIPHENYL

59 %

CLIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: QC1122E(211)

DATE : 11-30-94

SAMPLE MATRIX : WATER

: SPIKE BLANK/SPIKE BLANK DUPLICATE ATAS 🐔

DATE SUBMITTED: 11-21-94 11-22-94 DATE EXTRACTED: DATE ANALYZED : 11-22-94

METHOD REF. : SW846-8080, EPA METHODOLOGY

SAMPLE ID : SPIKE BLANK/SPIKE BLANK DUPLICATE

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	spike Added (ug/L)	AMT. FOUND BLK (ug/L)	AMT. FOUND SB (ug/L)	sb Percent Recovery	
2: DNT	0.250	ND	0.187	75 %	
2,4 DNT	0.250	ND	0.187	75 %	

COMPOUND	AMT. FOUND SBD (ug/L)	BBD PERCENT RECOVERY	RPD	
2,6 DNT	0.219	88 %	16 %	
2,4 DNT	0.223	89 %	17 %	

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1167601R(211)

DATE : 11-30-94

SAMPLE MATRIX : WATER ATAS EPISODE : #11676 DATE SUBMITTED: 11-21-94 DATE ANALYZED: 11-29-94 PROJECT : WSSRAP

CLIENT ID	ATAS ID	UNITS	RADIONUCLIDE	RESULT
#1 NP-EP01-112194-C	11676.01	pCi/L	GROSS ALPHA	2 +/- 2*
#1 NP-EP01-112194-C	11676.01	pCi/L	GROSS BETA	6 +/- 3*
#1 NP-EP01-112194-C	11676.01	mg/L	TOTAL URANIUM	<0.005

^{*} VARIABILITY OF THE RADIOACTIVE DISINTEGRATION PROCESS (COUNTING ERROR) AT THE 95% WFIDENCE LEVEL, 1.960.

L= PICOCURIES PER LITER

mg/L = PARTS PER MILLION(PPM)

CLIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1167601M(211)

DATE : 11-30-94

SAMPLE MATRIX : WATER

ATAS # : 11676.01

DATE SUBMITTED: 11-21-94

PROJECT : WSSRAP SAMPLE ID : #1 NP-EPQ1-112194-C

PARAMETER	REPORTING LIMIT	UNITS	RESULTS	DATE ANALYZED	method Reference
		IN	ORGANICS		
NITRATE-NITRITE	0.10	mg/L	0.10	11-28-94	EPA 353.2
		1	METAL8		
RSENIC	10.0	ug/L	ND	11-28-94	SW 6010
CHROMIUM	1.0	ug/L	ND	11-28-94	SW 6010
COPPER	4.0	ug/L	ND	11-28-94	SW 6010 SW 6010
LEAD MANGANESE	3.0 1.0	ug/L ug/L	ND 17.2	11-28-94 11-28-94	SW 6010
MERCURY	0.15	ug/L	ND	11-28-94	SW 7470
SELENIUM	5.0	ug/L	6.1	11-28-94	SW 6010

LIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON REPORT: QC1128M(211)

DATE : 11-30-94

QA/QC

<u>DESCRIPTION</u>		<u>Parameter</u>	RESULTS	
METHOD BLANK	11-28-94	ARSENIC	<10.0	ug/L
METHOD BLANK	11-28-94	CHROMIUM	<1.0	ug/L
METHOD BLANK	11-28-94	COPPER	<4.0	ug/L
METHOD BLANK	11-28-94	LEAD	<3.0	ug/L
METHOD BLANK	11-28-94	MANGANESE	<1.0	ug/L
METHOD BLANK	11-28-94	SELENIUM	<5.0	ug/L
METHOD BLANK	11-28-94	MERCURY	<0.15	ug/L
METHOD BLANK	11-28-94	NITRATE-NITRITE	<0.10	mg/L
BLANK SPIKE	11-28-94	ARSENIC	110 %	RECOVERY
BLANK SPIKE	11-28-94	CHROMIUM	103 %	RECOVERY
BLANK SPIKE	11-28-94	COPPER	96 %	RECOVERY
BLANK SPIKE	11-28-94	LEAD	100 %	RECOVERY
BLANK SPIKE	11-28-94	MANGANESE	101 %	RECOVERY
ANK SPIKE	11-28-94	SELENIUM	108 %	RECOVERY
BLANK SPIKE	11-28-94	MERCURY	98 %	RECOVERY
BLANK SPIKE	11-28-94	NITRATE-NITRITE	92 %	RECOVERY

JUSTODY / AUTHORIZATION FORM WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSRAP) BNVIRONMENTAL SAMPLE CHAIN-O.

7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63304 TELEPHONE (314) 441–8086 TELEX (314) 447–0803

Validation Documentation							ESA13 4, 1.2, 5, Rev.6, Effective 11/93
WSSRAP Contact:	Lab/P.O. #:		ال بر	St. Charles		Dept/Cost Code:	
	Requisitioner;						
	Turns round Time:	Time:	Sandard Sangard	brd	Aboock	Accelerated Thiority D	Urgent [] Emergency
Sample ID	S OC	Date Sampled	Matrix	Cont.	Preserv.	Parameters	89-8-182 Arch
1 NP-EPOI-112134-C	/# 	_	WATER	7!-!	TONT	As Cr. PL Ma, Ha	Se. C. 11676.01 N
		<u> </u>		37± 374971-1	375	2.4-DNT	
	-			11.1	Hz Sof		
)		بر	٠,	7]-[[HN65	!	→
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		-					
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		/					
A) L		The state of the s		Tank T	١,		
Sample's Signature	Checked By	7 Â		7		Technical Reviewer	
J?Noquished By Recaived By A	Date))	Time.			Reason for Transfer	Seal Intact? Cooler
Colleman Mann (F	79/18/11	150	3				
System to Clark theto	1/6/11	19164	ose/				
7	_				1		

AUTHORIZATION

7246

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

December 7, 1994

Stanley M. Remington 919 Broadmoor Lane St. Charles, MO 63301

RE: ATAS #11724.01 Weldon Spring

Dear Mr. Remington:

Enclosed is the analytical report for the sample received in our laboratory on November 29, 1994.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr Project Manager

Enclosures

JAC/pck

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1172401EX(212)

DATE : 12-07-94

SAMPLE MATRIX: WATER
ATAS # : 11724.01
DATE SUBMITTED: 11-29-94
DATE EXTRACTED: 11-30-94
DATE ANALYZED: 12-02-94

METHOD REF. : SW846-8090, EPA METHODOLOGY

PROJECT : WELDON SPRING SAMPLE ID : NP-EPSI-112994-C

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

REPORTING

LIMIT	RESULTS
0.108	ND
0.0215	ND
	<u>LIMIT</u> 0.108

CLIENT: STANLEY M. REMINGTON REPORT: BK1130EX(212)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12-07-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # METHOD BLANK

DATE SUBMITTED: 11-29-94 DATE EXTRACTED: 11-30-94 DATE ANALYZED: 12-02-94

METHOD REF. : SW846-8090, EPA METHODOLOGY

PROJECT : WELDON SPRING SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

REPORTING

EXPLOSIVE	LINIT	RESULTS
2,6 DNT	0.010	ND
2,4 DNT	0.020	ND

CLIENT: STANLEY M. REMINGTON REPORT: QC1130EX(212)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12-07-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : LABORATORY CONTROL SAMPLE

DATE SUBMITTED: 11-29-94 DATE EXTRACTED: 11-30-94 DATE ANALYZED: 12-02-94

METHOD REF. : SW846-8090, EPA METHODOLOGY

PROJECT : WELDON SPRING

SAMPLE ID : LABORATORY CONTROL SAMPLE

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL.(ug/L)	AMT. FOUND LCS(ug/L)	Percent Recovery	
2,6 DNT	0.250	0	0.158	63 %	
2 DNT	0.250	0	0.157	63 %	

	AMT. FOUND SBD (ug/L)	PERCENT RECOVERY	PERCENT DIFFERENCE	
2,6 DNT	0.204	82 %	26 %	
2,4 DNT	0.205	82 %	26 %	

CLIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1172401MT(212)

DATE : 12-07-94

SAMPLE MATRIX : WATER : 11724.01 ATAS # DATE SUBMITTED: 11-29-94

PROJECT : WELDON SPRING : NP-EPSI-112994-C SAMPLE ID

PARAMETER	DET LIMIT	UNITS	RESULTS	DATE ANALYZED	method Reference
		in	ORGANICS		
NITRATE-NITRITE	0.10	mg/L	0.31	12-06-94	EPA 353.2
		1	METALS		
ARSENIC CHROMIUM COPPER LEAD MANGANESE MERCURY SELENIUM	10.0 1.0 4.0 3.0 1.0 0.15 5.0	ug/L ug/L ug/L ug/L ug/L ug/L ug/L	ND ND ND ND 3.7 ND ND	12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94	SW 6010 SW 6010 SW 6010 SW 6010 SW 6010 SW 7470 SW 6010

ug/L = PARTS PER BILLION(PPB)

 $[\]tau/L$ = PARTS PER MILLION(PPM)

^{/ =} NOT DETECTED ABOVE QUANTITATION LIMIT

CLIENT: STANLEY M. REMINGTON

11724RADW(212) REPORT:

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12~07~94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER ATAS EPISODE : #11724 DATE SUBMITTED: 11-29-94

: WELDON SPRING PROJECT

RESULTS REPORTED IN pCi/L

CLIENT ID	ATAS ID	RADIONUCLIDE	RESULT
NP-EPSI-112994-C NP-EPSI-112994-C NP-EPSI-112994-C	11724.01	GROSS ALPHA GROSS BETA TOTAL URANIUM (mg/L)	12 +/- 6* 12 +/- 5* <0.005

ENVIRONMENTAL SAMPLE CHAIN-OFF CUSTODY / AUTHORIZATION FORM

WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSICAP)
7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63304
TELEPHONE (314) 441–8086 TELEX (314) 447–0803

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/ali	Validation Documentation									ESALIALIA, Reva, Electro 11/93	Jedie 11/93
₩	WSSRAP Contact:	a.l.	Lat/P.O. #;	D. #:					Dept/Cost Code:		•
Pho	Phone Number:	Re	quis	Requisitioner:							
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**€	Sample 1D		ac	C Date Sampled	Matrix	Court,	Preserv.		Parameters	103-84-AL	Arch.
	NP-EPSI- 112994-	J		16/62/11	14	11-1	QW#	As, C. 16.	Mr. Se. Ph	11724.01	
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AUTHORIZATION

ES&H

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

December 21, 1994

Stanley M. Remington 919 Broadmoor Lane St. Charles, MO 63301

RE: ATAS #11726.01-#11726.02 Weldon Spring

Dear Mr. Remington:

Enclosed are the analytical reports for the samples received in our laboratory on November 29, 1994.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeffrey A. Carr Project Manager

Enclosures

JAC/pck

STANLEY M. REMINGTON

REPORT: 1172601PT(214)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

DATE : 12-21-94

SAMPLE MATRIX : WATER ATAS # DATE SUBMITTED: 11-29-94 DATE EXTRACTED: 12-02-94 DATE ANALYZED : 12-08-94

METHOD REF. : SW846-8080, EPA METHODOLOGY PROJECT : WELDON SPRING

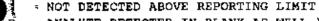
: RMW-2 SAMPLE ID

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

PESTICIDES/PCB'S	REPORTING LIMIT	<u>RESULTS</u>
· ·		
ALPHA-BHC	0.003	ИD
GAMMA-BHC(LINDANE)	0.004	ND
BETA-BHC	0.006	ND
DELTA-BHC	0.009	ИD
HEPTACHLOR	0.003 '	ND
ALDRIN	0.004	ND
HEPTACHLOR EPOXIDE	0.083	ND
ENDOSULFAN I	0.014	ND
4,4-DDE	0.004	ND
DIELDRIN	0.002	ND
ENDRIN	0.006	ND
4,4-DDD	0.011	ND
ENDOSULFAN II	0.004	ND
4,4-DDT	0.012	ND
ENDRIN ALDEHYDE	0.023	ND
ENDOSULFAN SULFATE	0.066	ND
METHOXYCHLOR	0.180	ND
CHLORDANE (TECHNICAL)	0.014	ND
TOXAPHENE	0.240	ND
AROCHLOR-1016	1.00	ND
AROCHLOR-1221	1.00	ИD
AROCHLOR-1232	1.00	ND
AROCHLOR-1242	1.00	ND
AROCHLOR-1248	1.00	ND
AROCHLOR-1254	1.00	ND
AROCHLOR-1260	1.00	ND

OA/OC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150) TETRACHLORO-M-XYLENE(30-150) 69 %



⁼ ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

REPORT: 1172602PT(214)

CLIENT: STANLEY M. REMINGTON 919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12-21-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER ATAS # : 11726.02 DATE SUBMITTED: 11-29-94 DATE EXTRACTED: 12-02-94

DATE ANALYZED : 12-08-94 METHOD REF. : SW846-8080, EPA METHODOLOGY

: WELDON SPRING PROJECT

: PW-9 SAMPLE ID

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

0.003	ND
	ND
0.014	ND
0.004	ИD
0.002	ND
0.006	ND
0.011	ND
0.004	ND
0.012	ND
0.023	ND
0.066	ИD
0.180	ŃD
0.014	ND
0.240	ND
1.00	ND
	ND
1.00	ND
	0.004 0.002 0.006 0.011 0.004 0.012 0.023 0.066 0.180 0.014 0.240 1.00 1.00 1.00

QA/OC SURROGATE RECOVERY

DECACHLOROBIPHENYL (30-150) TETRACHLORO-M-XYLENE(30-150) 67 %

NOT DETECTED ABOVE REPORTING LIMIT = ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

CLIENT: STANLEY M. REMINGTON REPORT: BK1202PT(214)

919 BROADMOOR LANE

ST. CHARLES, MO 63301 DATE : 12-21-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : METHOD BLANK

DATE SUBMITTED: 11-29-94 DATE EXTRACTED: 12-02-94 DATE ANALYZED: 12-08-94

METHOD REF. : SW846-8080, EPA METHODOLOGY

: WELDON SPRING PROJECT : METHOD BLANK SAMPLE ID

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

PESTICIDES/PCB'S	REPORTING LIMIT	<u>results</u>
ALPHA-BHC	0.003	ND
GAMMA-BHC(LINDANE)	0.004	ND
BETA-BHC	0.006	ND
DELTA~BHC	0.009	ND
HEPTACHLOR	0.003	ND
ALDRIN	0.004	ND
HEPTACHLOR EPOXIDE	0.083	ND
ENDOSULFAN I	0.014	ND
4,4-DDE	0.004	ND
DIELDRIN	0.002	ND
ENDRIN	0.006	ND
4,4-DDD	0.011	ND
ENDOSULFAN II	0.004	ND
4,4-DDT	0.012	ND
ENDRIN ALDEHYDE	0.023	ND
ENDOSULFAN SULFATE	0.066	ND
METHOXYCHLOR	0.180	ИD
CHLORDANE (TECHNICAL)	0.014	ND
TOXAPHENE	0.240	ИD
AROCHLOR-1016	1.00	ND
AROCHLOR-1221	1.00	ND
AROCHLOR-1232	1.00	ИD
AROCHLOR-1242	1.00	ND
AROCHLOR-1248	1.00	ND
AROCHLOR-1254	1.00	ND
AROCHLOR-1260	1.00	ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150) 56 % TETRACHLORO-M-XYLENE(30-150) 69 %

NOT DETECTED ABOVE REPORTING LIMIT = ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

LABORATORY QUALITY CONTROL SEQUENCE

: EPA 8080 METHOD

EXTRACTION DATE: 12-02-94 ANALYSIS DATE : 12-08-94 REPORT DATE: 12-21-94

6.8 %

SPIKE/SPIKE DUPLICATE RESULTS

0.425

4,4-DDT

COMPOUND	SPIKE CONC. (ug/L)	sample conc. (ug/L)	SPIKE CONC.	PERCENT RECOVERY
GAMMA-BHC	0.200	ND	0.153	. 77 %
HEPTACLOR	0.200	ND	0.171	8 6 %
ATORIN	0.200	ND	0.139	70 %
DIELDRIN	0.500	ND	0.441	88 %
ENDRIN	0.500	ND	0.493	99 %
4,4-DDT	0.500	ND	0.453	91 %
	SPIKE DUP. CONC.(ug/L)	PERCENT RECOVERY	RELATIVE PER DIFFERENCE	CENT
GАММА-ВНС	0.131	66 %	15 %	
HEPTACHLOR	0.160	80 %	7.2 %	
ALDRIN	0.125	63 %	. 11 %	
DIELDRIN	0.407	81 %	8.3 %	
ENDRIN	0.452	90 %	9.5 %	

85 %

ATAS

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1172601GC(214)

DATE : 12-21-94

SAMPLE MATRIX : WATER

ATAS # : 11726.01

DATE SUBMITTED: 11-29-94

DATE EXTRACTED: 11-29-94

DATE ANALYZED : 11-30-94

METHOD REF. : METHOD 505

PROJECT : WELDON SPRING SAMPLE ID : RMW-2

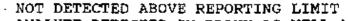
RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

COMPOUND REPORTING LIMIT RESULTS

ATRAZINE 2.40 ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150) 58 % TETRACHLORO-M-XYLENE(30-150) 56 %



= ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

STANLEY M. REMINGTON CLIENT:

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1172602GC(214)

DATE : 12-21-94

SAMPLE MATRIX : WATER

ATAS #

11726.02

DATE SUBMITTED:

11-29-94

DATE EXTRACTED: 11-29-94 DATE ANALYZED :

11-30-94

METHOD REF. :

METHOD 505

PROJECT

WELDON SPRING

SAMPLE ID

: PW-9

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

COMPOUND

REPORTING LIMIT

RESULTS

ATRAZINE

2.40

ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL (30-150) TETRACHLORO-M-XYLENE(30-150) 73 % 66 %

ATAS

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

LIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: BK1129GC(214)

DATE : 12-21-94

SAMPLE MATRIX : WATER

ATAS # : METHOD BLANK

DATE SUBMITTED: 11-29-94
DATE EXTRACTED: 11-29-94
DATE ANALYZED: 11-30-94
METHOD REF.: METHOD 505

PROJECT : WELDON SPRING SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

ATRAZINE 2.40 ND

OA/OC SURROGATE RECOVERY

DECACHLOROBIPHENYL(30-150) 114 % TETRACHLORO-M-XYLENE(30-150) 97 %

L. JRATORY QUALITY CONTROL SEQUENCE

SAMPLE MATRIX : WATER

REPORT DATE: 12-21-94

DATE EXTRACTED: 11-29-94

DATE ANALYZED :

11-30-94

METHOD REF.

METHOD 505

SPIKE BLANK/SPIKE BLANK DUPLICATE RECOVERY

RESULTS REPORTED IN ug/L OR PARTS PER BILLION(PPB)

į	SPIKE ADDED (ug/L)	AMT. FOUND BLK (ug/L)	AMT. FOUND SB (ug/L)	SB PERCENT RECOVERY	
ATRAZINE	57.1	0	38.2	67 %	

AMT. FOUND		PERCENT	PERCENT	•	
SBD (ug/L)		RECOVERY	DIFFERENCE		
ATRAZINE	35.5	62 %	7.8 %		

NT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

1172601HB(214) REPORT:

DATE : 12-21-94

SAMPLE MATRIX : WATER : 11726.01 ATAS # 11-29-94 DATE SUBMITTED: 12-01-94 DATE EXTRACTED:

DATE ANALYZED: 12-03-94

METHOD REF. : SW846-8150, EPA METHODOLOGY : WELDON SPRING PROJECT

: RMW-2 SAMPLE ID

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

HERBICIDES

HERBICIDES	REPORTING LIMIT	RESULTS
		.
2,4-D	1.60	ИD
2,4-DB	5.00	ND
2,4,5-TP (SILVEX)	0.60	ND
2,4,5-T	0.60	ИD
DALAPON	1.25	ND
DICAMBA	0.80	ND
DICHLOROPROP	2.40	ND
DINOSEB	0.60	ND
MCPA	500	ND
MCPP	500	ND

OA/OC SURROGATE RECOVERIES

DCAA

103 %

ENT: STANLEY M. REMINGTON REPORT:

1172602HB(214)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12-21-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : 11726.02

DATE SUBMITTED: 11-29-94

DATE EXTRACTED: 12-01-94

DATE ANALYZED : 12-03-94

METHOD REF. : SW846-8150, EPA METHODOLOGY PROJECT : WELDON SPRING

SAMPLE ID : PW-9

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

HERBICIDES

	HERBICIDES	REPORTING LIMIT	results	
i i	2,4-D	1.60	ИĎ	
	2,4-DB	5.00	ND	
•	2,4,5-TP (SILVEX)	0.60	ND	
	2,4,5-T	0.60	ND	
	DALAPON	1.25	ND	
	DICAMBA	0.80	ND	
	DICHLOROPROP	2.40	ND	
	DINOSEB	0.60	ND	
	MCPA	500	ND	
	MCPP		ND	

QA/QC SURROGATE RECOVERIES

DCAA

106 %

INT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: BK1201HB(214)

DATE : 12-21-94

SAMPLE MATRIX : WATER

: METHOD BLANK ATAS #

DATE SUBMITTED: 11-29-94 DATE EXTRACTED: 12-01-94 DATE ANALYZED: 12-03-94

METHOD REF. : SW846-8150, EPA METHODOLOGY

: WELDON SPRING PROJECT : METHOD BLANK SAMPLE ID

RESULTS REPORTED IN ug/L OR Parts Per Billion (PPB)

HERBICIDES

	KERBICIDES	REPORTING LIMIT	RESULTS
	2,4-D	1.60	ND
F 5	2,4-DB	5.00	ND
	2,4,5-TP (SILVEX)	0.60	ND
	2,4,5-T	0.60	ND
	DALAPON	1.25	ND
	DICAMBA	0.80	ND
	DICHLOROPROP	2,40	ND
	DINOSEB	0.60	ND
	MCPA	500	ND
	МСРР	500	ND

OA/OC SURROGATE RECOVERIES

DCAA

107 %



LABORATORY QUALITY CONTROL SEQUENCE

METHOD : EPA 8150 REPORT DATE: 12-21-94

QA SEQUENCE NO. : LABORATORY CONTROL SPIKE

EXTRACTION DATE : 12-01-94 ANALYSIS DATE : 12-03-94

HERBICIDE LABORATORY CONTROL SPIKE RECOVERY FORM

COMPOUND	SPIKE ADDED (ug/L)	AMOUNT FOUND (ug/L)	AMOUNT FOUND CONC. (ug/L)	PERCENT RECOVERY
DALAPON	5,00	ND	2.40	48 %
DICAMBA	3.20	ND	3-17	99 %
ે લ	2000	ND	1880	94 %
МСРА	2000	ND	1880	94 %
DICHLOROPROP	9.60	ND	10.3	107 %
2,4-D	6.40	ND	5.39	84 %
2,4,5-TP (SILVE	X) 2.40	ND	2.01	84 %
2,4,5-T	2.40	ND	2.09	87 %
2,4-DB	10.0	ND	7.70	77 %
DINOSEB	2.4	ND	1.38	58 %

ATAS

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: 1172601MT(214)

DATE : 12-21-94

SAMPLE MATRIX : WATER ATAS # : 11726.01 DATE SUBMITTED: 11-29-94

PROJECT : WELDON SPRING

SAMPLE ID : RMW-2

PARAMETER	DET LIMIT	UNITS	RESULTS	DATE ANALYZED	METHOD REFERENCE
		IN	ORGANICS		
NITRATE-NITRITE	0.10	mg/L	ND	12-06-94	EPA 353.2
ļ		1	METALS		
ARSENIC	10.0	ug/L	74.4	12-02-94	SW 6010
BERYLLIUM	1.0	ug/L	ND	12-02-94	SW 6010
COPPER	4.0	ug/L	12.6	12-02-94	SW 6010
IRON	20.0	ug/L	2620	12-02-94	SW 6010
LEAD	3.0	ug/L	ND	12-02-94	SW 6010
MANGANESE	1.0	ug/L	1330	12-02-94	SW 6010
MERCURY	0.15	ug/L	0.23	12-02-94	SW 7470
ZINC	3.0	ug/L	49.0	12-02-94	SW 6010

^{&#}x27;/L = PARTS PER BILLION(PPB)

_/L = PARTS PER MILLION(PPM)

ND = NOT DETECTED ABOVE QUANTITATION LIMIT

CLIENT: STANLEY M. REMINGTON

REPORT: 1172602MT(214)

919 BROADMOOR LANE

DATE : 12-21-94

ST. CHARLES, MO 63301 ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER ATAS #

: 11726.02

DATE SUBMITTED: 11-29-94

PROJECT : WELDON SPRING

: PW-9 SAMPLE ID

PARAMETER	DET LINIT	UNITS	RESULTS	DATE ANALYZED	method Reference
		IN	organics		
NITRATE-NITRITE	0.10	mg/L	ND	12-06-94	EPA 353.2
		1	METALS		
ARSENIC	10.0	ug/L	ND	12-02-94	SW 6010
BERYLLIUM	1.0	ug/L	ND	12-02-94	SW 6010
COPPER	4.0	ug/L	6.9	12-02-94	SW 6010
IRON	20.0	ug/L	6450	12-02-94	SW 6010
LEAD	3.0	ug/L	ND	12-02-94	SW 6010
MANGANESE	1.0	ug/L	399	12-02-94	SW 6010
MERCURY	0.15	ug/L	0.20	12-02-94	SW 7470
ZINC	3.0	ug/L	5.1	12-02-94	SW 6010

[/]L = PARTS PER BILLION(PPB)

mg/L = PARTS PER MILLION(PPM)

ND = NOT DETECTED ABOVE QUANTITATION LIMIT

CLIENT: STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT: QC1202MT(214)

DATE : 12-21-94

QA/QC

	<u>PARAMETER</u>	RESULTS	
12-06-94	NITRATE-NITRITE	<0.1	mg/L
12-02-94	ARSENIC	<10.0	ug/L
12-02-94	BERYLLIUM	<1.0	ug/L
12-02-94	COPPER	<4.0	ug/L
12-02-94	IRON	<20.0	ug/L
12-02-94	LEAD	<3.0	ug/L
12-02-94	MANGANESE	<1.0	ug/L
12-02-94	ZINC	<3.0	ug/L
12-02-94	MERCURY	<0.15	ug/L
12-06-94	NITRATE-NITRITE	102 %	RECOVERY
12-02-94	ARSENIC	105 %	RECOVERY
12-02-94	BERYLLIUM	101 %	RECOVERY
12-02-94	COPPER	101 %	RECOVERY
12-02-94	IRON	101 %	RECOVERY
12-02-94	LEAD	99 %	RECOVERY
12-02-94	MANGANESE	102 %	RECOVERY
12-02-94	ZINC	103 %	RECOVERY
12-02-94	MERCURY	110 %	RECOVERY
	12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94 12-02-94	12-06-94 NITRATE-NITRITE 12-02-94 ARSENIC 12-02-94 BERYLLIUM 12-02-94 IRON 12-02-94 LEAD 12-02-94 MANGANESE 12-02-94 MERCURY 12-06-94 NITRATE-NITRITE 12-02-94 ARSENIC 12-02-94 BERYLLIUM 12-02-94 BERYLLIUM 12-02-94 IRON 12-02-94 IRON 12-02-94 IRON 12-02-94 IRON 12-02-94 LEAD 12-02-94 LEAD 12-02-94 MANGANESE 12-02-94 ZINC	12-06-94

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

REPORT:

11726RADW(214)

DATE : 12-21-94

SAMPLE MATRIX : WATER

ATAS EPISODE : #11726 DATE SUBMITTED: 11-29-94

PROJECT

: WELDON SPRING

RESULTS REPORTED IN pCi/L

CLIENT ID	ATAS ĮD	RADIONUCLIDE	RESULT
RMW-2	11726.01	GROSS ALPHA	16 +/- 6*
		GROSS BETA	13 +/- 4*
		TOTAL URANIUM	0.011
		(mg/L)	
PW-9	11726.02	GROSS ALPHA	0 +/- 4*
		GROSS BETA	9 +/- 4*
		TOTAL URANIUM	0.010
. ;		(mg/L)	

^{*} VARIABILITY OF THE RADIOACTIVE DISINTERGRATION PROCESS (COUNTING ERROR) AT THE 95% / NFIDENCE LEVEL, 1.96o.

REPORT: 1172601EX(214)

DATE : 12-21-94

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : 11726.01 DATE SUBMITTED: 11-29-94

DATE ANALYZED : 12-02-94

METHOD REF. : SW846-8330, EPA METHODOLOGY PROJECT : WELDON SPRING SAMPLE ID : RMW-2

EXPLOSIVE	REPORTING <u>LIMIT</u>	RESULTS
HMX RDX 1,3,5-TNB TETRYL 1,3-DNB NITROBENZENE 2,6 DNT 2,4 DNT 2,4,6 TNT c-NITROTOLUENE p-NITROTOLUENE m-NITROTOLUENE	13.0 14.0 7.3 10.0 4.0 7.0 9.4 5.7 6.4 12.0 8.0 7.9	ND ND ND ND ND ND ND ND ND
		

LIENT: STANLEY M. REMINGTON

REPORT: 1172602EX(214)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12-21-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER ATAS # 11726.02 DATE SUBMITTED: 11-29-94 DATE ANALYZED: 12-02-94

METHOD REF. : SW846-8330, EPA METHODOLOGY

PROJECT : WELDON SPRING

SAMPLE ID : PW-9

REPORTING	
<u>LIMIT</u>	RESULTS
13.0	ND
14.0	ND
7.3	ИD
10.0	ND
4.0	ND
7.0	ND
9.4	ND
5.7	ND
6.4	ND
12.0	ND
8.0	ND
7.9	ND
	LIMIT 13.0 14.0 7.3 10.0 4.0 7.0 9.4 5.7 6.4 12.0 8.0

ATAS

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: STANLEY M. REMINGTON

REPORT: 1172602DE(214)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12-21-94

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : 11726.02 DUP DATE SUBMITTED: 11-29-94 DATE ANALYZED : 12-02-94

METHOD REF. : SW846-8330, EPA METHODOLOGY

PROJECT : WELDON SPRING

SAMPLE ID : PW-9

	REPORTING	
EXPLOSIVE	<u>LIMIT</u>	RESULTS
IDAY	12.0	ND
HMX	13.0	
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

CLIENT: STANLEY M. REMINGTON

REPORT: BK1202EX(214)

919 BROADMOOR LANE

ST. CHARLES, MO 63301

DATE : 12-21-94

STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

ATAS # : METHOD BLANK

DATE SUBMITTED: 11-29-94 DATE ANALYZED: 12-02-94

METHOD REF. : SW846-8330, EPA METHODOLOGY

PROJECT : WELDON SPRING SAMPLE ID : METHOD BLANK

EXPLOSIVE	REPORTING <u>LIMIT</u>	RESULTS
HMX	13.0	ND
RDX	14.0	ND
1,3,5-TNB	7.3	ND
TETRYL	10.0	ND
1,3-DNB	4.0	ND
NITROBENZENE	7.0	ND
2,6 DNT	9.4	ND
2,4 DNT	5.7	ND
2,4,6 TNT	6.4	ND
o-NITROTOLUENE	12.0	ND
p-NITROTOLUENE	8.0	ND
m-NITROTOLUENE	7.9	ND

REPORT: QC1202EX(214)

DATE : 12-21-94

CLIENT:

STANLEY M. REMINGTON

919 BROADMOOR LANE

ST. CHARLES, MO 63301

ATTN: STANLEY M. REMINGTON

SAMPLE MATRIX : WATER

: LABORATORY CONTROL SAMPLE ATAS #

DATE SUBMITTED: 11-29-94 DATE ANALYZED: 12-02-94

METHOD REF. : SW846-8330, EPA METHODOLOGY

PROJECT : WELDON SPRING SAMPLE ID : LABORATORY CONTROL SAMPLE

COMPOUND	SPIKE ADDED(ug/L)	AMT. FOUND SMPL.(ug/L)	AMT. FOUND LCS(ug/L)	PERCENT RECOVERY	
·					
НМХ	1600	0	1650	103 %	
אַראַ	1300	0	1350	104 ₺	
,5-TNB	900	0	977	109 %	
TETRYL	1650	Ö	2250	136 %	
1,3-DNB	475	Ö	492	104 %	
TNT	750	Ō	834	111 %	
NITROBENZENE	850	ō	891	105 %	
2,6 DNT	1150	Ö	1280	111 %	
2,4 DNT	700	Ö	723	103 %	
o-NITROTOLUENE	1450	Ō	1530	106 %	
	1000	ő	982	98 %	
p-NITROTOLUENE		o	938	99 %	
m-NITROTOLUENE	950	U	220	4	

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

Ģ.

1-29-94 1-29-94 1-20-94 1-20-94 1-20-94 1-20-94 <u>₹</u>0 DATE/TIME 11726.01 2 | 19 | 15 j.actor RECEIVED BY: In # Or Work Days ANALYSIS Turnaround Time Please Indicate REMARKS DATE/TIME RELINQUISHED BY: DATE/TIME × ナメ パナナ ラチナ CONTAINERS SPRING PRES RECEIVED BY: KEMINGTON WELDON LOCATION: COMP ATAS CLIENT NAME: DATE TIME MATRIX W RELINQUISHED BY: DATE/TIME STAN FORM COMPLETED BY: A5/68/11 11586 SAMPLE ID PROJ. NO. E-MWY PLANT PW-9 TREAT.

1/30/64 NARTH



St. Louis County Department of Health

November 30, 1994

Kenneth V. Miller Bureau of Radiological Health Missouri Department of Health Jefferson City, MO 65102

Dear Mr. Miller:

The level of Gross Alpha and Gross Beta in the commercial samples from St. Charles County Court, Weldon Springs, Treatment Plant are as follows:

DATE: [09-01-94/09/30/94)	GROSS ALPHA	GROSS BETA	MOL(pCi/L)
Raw Water	2.9 ± 1.4	6.3 ± 1.0	1.0
Finished Water <	1.0	4.6 ± 0.5	1.0
[10/01-94/10/31/94]			
Raw Water	2.6 ± 1.3	6.5 ± 1.1	1.0
Finished	1.0 ± 0.8	4.2 ± 1.0	1.0

Sincerely,

Laboratory Director ())

: Westfall 1 ty Executive

∍ha Fowler Bryan, M.D. ctor

A *eramec Avenue

lissouri 63105

те: (314) 854-6000 WEB: y (314) 854-6435 (314) 854-6446

pc - Dept. of Natural Resources - WSP - Jefferson City Dept. of Natural Resources - WSP - St. Louis

% St. Charles County Water

Mr. Thomas W. Aaron, St. Charles County Court, Weldon Springs

ST. CHARLES COUNTY WATER DEPARTMENT MONTHLY WATER USAGE REPORT

l {								
MONTH OF: NOVEMBER		MONTHLY USAGED		DAILY AVG.		Y TO D USAGED		Y TO D AVG.
PLANT PRODUCTION	1	235623000	,	7.80	ī	3341871000		10.01
PLANT USE	:	14678000	ľ	0.50	1	163667000	:	0.49
DELIVERED TO SYSTEM	1	220945000	1	7,30	:	3179204000	ī	9.52
MISSOURI CITIES WATER	•	179594000	:	5.90	:	2454286000		7.35
WATER DISTRICT #2 24" LINE	Ŧ	32212000	t	1.10	ı	513355000	ŧ	1,54
WATER DIST. #2 NEW MELLE	:	4895000	*	0.20	:	57309000	1	0.17
NATIONAL GUARD AREA	1	000	ŧ	0	ı	21000		
TOTAL METER SALES	:	216701000	:	7.20		3024971000	:	9.06
UNMETERED AND UNACCOUNTED	F	4244000	ľ	0.10		153134000		0.46

INVENTORY OF CHEMICALS

	LI	LIME		LORINE
PREV. BALANCE	+1	126376	+1	8536
RECEIVED	+1	437400	+:	16000
TOTAL.	=:	563776	= t	24536
USED	-:	301813	-1	14930
BALANCE	**	261963	* :	9606
POUNDS PER 1000 GALLONS	=1	1.281	=;	0.041
PARTS PER MILLION	= ;	154	= :	7.60
AVG. POUNDS PER DAY	=:	1160	× I	4 9 8
POUNDS USED YEAR TO DATE	E=;	4822722	=1	234140

METER READINGS

ACCOUNT #

METER

TD: 12/01/94 FROM: 10/31/94 USAGED

NI JURI CITIES BOOSTER STATION

ULTRA SONIC #1 +: 151911 -: 371040 =: ULTRA SONIC #2 +: 651970 -: 589477 =:

TOTALIZER +: 4528342 -: 4348748 =: 179594000

METERS BEFORE MISSOURI CITIES BOOSTER STATION

METERS DELOKE	LITOGOOMY CTITES DODE			
		TOr	FROM: 10/25/9	4 USABED
04-50-1328350	1. FH ANNEX 4"	+:	-: 1126	⇔ ¥
34-50-1328500	2. MO STATE SHED	+:	-: 17 6	= !
04-50-1330000	3. DOE LAB LARGE	+:	-: 385	=:
	SMALL.	+:	-: 9801	=:
04-50-1330401	4. DOE FIRE LINE	+1	-: 15283	
04-50-1330701	5. DOE TRAILERS	+:	-: 82	= \$
04-50-1330100	6. DOE 8" #1 LARGE	+:	-: 5850	= j
	SMALL	.+1	-: 6045	= •
04-50-1330200	7. DDE 8" #2 LARGE	(+·I	-: 1933	=:
	SMALL	.+:	∽ı 2420	== [
04-50-1320200	8, DOE 3"	+r	-: 2893	= :
04-50-1328550	9. FH SCHOOL	#1	-t 12474	* :
-			TOTAL	=:

MISSOURI CITIES TOTAL =: 179594000

AICR DIST. #2 24" LINE

TD: 12/01/94 FROM: 11/01/94 USAGED

24" EAST +: 201742 -: 201742 =: 24" WEST +: 885875 -: 853663 =: 32212000

BYPASS +1 2340 -: 2340 =:

WATER DIST. #2 TOTAL =: 32212000

NEW MELLE +: 238100 -: 233205 =: 4295000